

Sub B1
1. (Once Amended) A method for controlling a magnetic actuator having a coil and an armature within a power switching device, the actuator being connected to a power line in a high voltage electrical distribution system, the method comprising:

A
inputting a power signal; and

applying a series of modulated current pulses through the coil of the magnetic actuator connected to the power line in the high voltage electrical distribution system in a first direction such that the actuator moves from a first position to a second position.

Sub B2
8. (Once Amended) A power switching control device for controlling a magnetic actuator within a power switching device connected to a power line in a high voltage electrical distribution system, the control device comprising:

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a power supply;

a microprocessor;

at least one actuator drive circuit connected to a power switching device and adapted to provide a series of modulated current pulses to the magnetic actuator connected to the power line in the high voltage electrical distribution system within the power switching device.

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17. (Once Amended) A method for determining a characteristic of a power switching device including a magnetic actuator having a coil and an armature, the actuator connected to a power line in a high voltage electrical distribution system, the method comprising:

applying a series of modulated current pulse through the coil for a predetermined interval of time;

measuring a current value in the coil during a portion of the predetermined interval of time;

determining an impedance value for the coil based on the current value;

comparing the impedance value for the coil to a threshold impedance value for the coil; and

determining, based on the comparison, the characteristic of the magnetic actuator connected to the power line in the high voltage electrical distribution system.

21. (Once Amended) The method of claim 17 wherein measuring the current value in the coil comprises measuring the current value at about 200 microseconds after the commencement of the predetermined interval of time.

24. (Once Amended) A power switching device system comprising:

a power switching device having a magnetic actuator connected to a power line in a high voltage electrical distribution system including a coil and an armature; and

a power switching device controller adapted to apply a voltage across the coil for a predetermined interval of time, measure a current value in the coil during a portion of the predetermined interval of time, determine an impedance value for the coil based on the current value, compare the impedance value for the coil to a threshold impedance value for the coil and determine, based on the comparison, a characteristic of the magnetic actuator.

28. (Once Amended) A regulator for regulating voltage within a power switching device control device including a magnetic actuator connected to a power line in a high

voltage electrical distribution system, the regulator operable in a switching mode and a linear mode, the regulator comprising:

an input power supply;

a transistor having a first, a second, and a third terminal;

an inductor disposed between the input power supply and the transistor, one end of the inductor in electrical connection with the first terminal of the transistor;

a capacitor disposed in a parallel connection with the transistor, one end of the capacitor being in electrical connection with the one end of the inductor and the other end of the capacitor being in electrical connection with an output terminal; and

the output terminal in electrical connection the third terminal of the transistor.

34. (Once Amended) A method for regulating an input power signal using a regulator operable in a switching mode and a linear mode for outputting a regulated output power signal in a power switching device control device including a magnetic actuator connected to a power line in a high voltage electrical distribution system, the method comprising:

receiving an input power signal having a first voltage;

regulating the input power signal to a second voltage;

outputting a regulated output signal at the second voltage;

determining, based on the regulated output signal, whether to operate the regulator in switching mode or a linear mode.

REMARKS